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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,046	07/25/2003	Daniel D. Poblete	7784000305DV	3788
27572	7590	12/24/2003	EXAMINER	
HARNESS, DICKEY & PIERCE, P.L.C.			ROGERS, DAVID A	
P.O. BOX 828			ART UNIT	
BLOOMFIELD HILLS, MI 48303			PAPER NUMBER	

2856

DATE MAILED: 12/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/627,046

Applicant(s)

POBLETE, DANIEL D.

Examiner

David A. Rogers

Art Unit

2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-18 is/are rejected.
- 7) ☒ Claim(s) 4 and 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 20030725.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities.
 - a. Replace paragraph 0001 with the following:

This application is a division of United States Patent Application No. 09/940,120, filed August 27, 2001, now United States Patent 6,615,642.
 - b. Replace --member 22-- with -- member 32-- on line 8 of paragraph 0018.

Appropriate correction is required.

Claim Objections

2. Claims 1 and 6 are objected to because of the following informality. These claims are directed to vacuum testing a cable. It is recommended that the preamble of the claims be rewritten as follows:

1. A method for vacuum testing a cable that is run through an opening in a fuselage of an aircraft, the opening extending from the interior of the aircraft to an exterior of the aircraft, the method comprising the steps of:

- (a)...

6. A method for vacuum testing a cable that is run through an opening in a fuselage of an aircraft, the opening extending from the interior of the aircraft to an exterior of the aircraft, the method comprising the steps of:

- (a)...

Appropriate correction is required.

3. Claim 4 is objected to because of the following informality. Claim 4 is dependent on claim 2. However, the claim's limitation, i.e. *forming a vacuum in said cavity*, suggests that the

applicant desired the dependency from claim 3. Claim 4, therefore, has been examined in the manner. This would be the same as the dependencies provided for claims 10-12.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 10-12 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omission includes the lack of an active, positive step of running a cable as required by the preamble of claim 10, i.e. *A method of running a cable...*

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-3, 5-11, and 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent 5,596,176 to Everitt in view of United States Patent United States Patent 6,564,617 to Araki, United States Patent 5,703,279 to Igura *et al.*, United States Patent 2,694,924 to Matlock *et al.*, and United States Patent 4,002,055 to Kops. Everitt teaches that it is known to pass a wire (reference item 61) through a gland housing member (reference item 10). The gland housing member is used to pass the wire through a bulkhead. Everitt further teaches that the wire is generally provided with a plurality of sealing means within the gland housing

member such as a membrane (reference item 12) and a sealing compound that fills a space (reference item 13). The device can further comprise a bypass tube (reference item 22) for passing additional wires after the sealing compound is applied. The bypass tube is provided with a plug (reference item 23) to seal the tube until it is used. When used, i.e. when a wire is passed through the tube, it would be obvious and with the scope of the use of the device of Everitt to ensure that the tube was resealed in order to maintain the watertight condition. Everitt teaches that the tube itself can be sealed by injection of a sealing compound within the tube itself. Everitt, therefore, clearly indicates that a) it is desired to form a sealed wire pass-through apparatus with an unused, temporarily sealed guide member and b) it is desired, at a later period, to pass a wire through the guide member and then to reseat the guide member. Furthermore, since Everitt is clearly directed to ensuring a watertight seal through the gland member housing, one of ordinary skill in the art would know or otherwise be inclined to test the device to ensure that leaks do not exist. This is especially true since Everitt discloses that the particular wire sealing apparatus is to be used as a bulkhead passthrough device in aircraft. There are many cases where aircraft bulkheads are pressure bulkheads between the interior of the pressurized aircraft and a portion of the aircraft that is not pressurized or is otherwise exposed to outside ambient conditions. For example, the forward pressure bulkhead of a United States Navy P-3 Orion supports the forward radar and is generally surrounded by the radome in an unpressurized environment. This forward pressure bulkhead has several through holes to allow the radar to be in electrical communication with the flight avionics inside the pressurized aircraft. Therefore, the particular wire attachment device of Everitt would be beneficial to ensuring that the pressure seal is not compromised.

Everitt, however, does not expressly disclose a means or method to test the watertightness of the device. Araki teaches that it is known to perform leak testing on wires that pass through a sealing means. In Akari, a wire (reference item W) passes through a grommet (reference item 1) at a sub-insertion point (reference item 4). The grommet acts as a sealing means for the wire to protect from the intrusion of water. An elongated tube (reference item 23) is placed against the grommet to generally surround the sub-insertion point as in figure 5. The device pressurizes the space in the tube that generally surrounds the wire. The pressurization creates a differential pressure between the first side of the grommet and the second side of the grommet. The pressurization is maintained and is indicated on a pressure gauge (reference item 42d). If, after a period of time, there is no leak, the judging section (reference item 43) will provide a pass indication (reference item 43a). If, after a predetermined time, there is a leak, the judging section will provide a fail indication (reference item 43b). It is further noted that the pipe holder (reference item 22) and pipe (reference item 24) are used to provide a rigid backing so that the elongated tube (reference item 23) can form proper sealing engagement with the grommet. Since, in the apparatus of Everitt, there is a rigid, cylindrical support (reference item 24) the pressurization apparatus of Akari would not require the pipe or the pipe holder to allow the elongated tube to form a seal. See *Ex parte Wu*, 10 USPQ 2031 (Bd. Pat. App. & Inter. 1989)¹. See also *In re Larson*, 340 F.2d 965, 144 USPQ 347 (CCPA 1965)² and *In re Kuhle*, 526

¹ Claims at issue were directed to a method for inhibiting corrosion on metal surfaces using a composition consisting of epoxy resin, petroleum sulfonate, and hydrocarbon diluent. The claims were rejected over a primary reference which disclosed an anticorrosion composition of epoxy resin, hydrocarbon diluent, and poly basic acid salts wherein said salts were taught to be beneficial when employed in a freshwater environment, in view of secondary references which clearly suggested the addition of petroleum sulfonate to corrosion inhibiting compositions. The Board affirmed the rejection, holding that it would have been obvious to omit the polybasic acid salts of the primary reference where the function attributed to such salt is not desired or required, such as in compositions for providing corrosion resistance in environments which do not encounter fresh water.

² Omission of additional framework and axle which served to increase the cargo carrying capacity of prior art mobile fluid carrying unit would have been obvious if this feature was not desired.

F.2d 553, 188 USPQ 7 (CCPA 1975)³. All that might be needed is a sealing means on the elongated tube. This can easily be accomplished by one of ordinary skill in the art. See, for example, Matlock *et al.* where a generally dome-shaped apparatus (reference item 13) is placed on the surface of a panel, the panel being utilized as stressed aircraft skin, bulkhead, or flooring. The dome-shaped device further comprises a means to obtain a vacuum, a pressure gauge (reference item 20), and a dome sealing means (reference item 14) which, when a vacuum is provided in the dome, acts to seal the dome to the panel. This specific device would, alone or in view of the teachings of Everitt, Akari, and Igura *et al.*, be beneficial in pressure testing the seals of wire pass-through locations. Furthermore, if the center post (reference item 15) was not required, i.e. if the tested structure was sufficiently rigid, then localized panel buckling would not be a concern and the dome could easily be design and implemented without the center post, as is the case of the patent to Kops. See again *Ex parte Wu*, *In re Larson*, and *In re Kuhle*.

The left side of the apparatus, as seen in figure 1 of Everitt, is on the interior of the aircraft. The right side of the apparatus is on the exterior of the aircraft bulkhead (see column 4, lines 39-52). The use of a pressurization would have been preferred if the pressure testing device was placed on left side of the cable sealing device (as seen in figure 1 of Everitt). The use of pressurization would ensure that the plug (reference item 23) was not inadvertently pulled out from the tube, and it would replicate the pressurization of the interior of the aircraft. In the same manner, it would be preferred to use a vacuum on the right side of the cable sealing apparatus, as seen in figure 1 of Everitt, as this would ensure that the plug was pulled towards the source of the vacuum, thus providing a better seal, and would further replicate the operating conditions on the

³ Deleting a prior art switch member and thereby eliminating its function was an obvious expedient.

apparatus. In either case noted above, the location of the pressure or vacuum source would depend on the orientation of the apparatus, the operating conditions of the aircraft, and the ease of accessibility to the location in order to perform the test.

While Akari discloses a pressurization testing using an apparatus that creates a positive pressure environment, it is generally accepted that this similar to creating a negative pressure on the opposite side of the grommet. The effect of either case is the creation of a pressure differential across the sealing means which would cause a flow from the high pressure region to the low pressure region. This second condition can be seen in the teachings of Igura *et al.* where a negative pressure condition is placed on one side of a test piece to test the tightness of wires (reference item 69) and their associated seals (reference item 70).

Finally, Everitt, does not expressly teach the use of a wire that has specific dimensions, such as being less than 0.5 inches (claim 15) or greater than about 0.5 inches (claim 9), or the use of a specific type of wire such as an antenna (claim 8). Wire diameters and types vary in aircraft installations, and can be comprise of single wire or multi-wire bundles. The specific type of wire needed for connection to an avionics device is purely a function of the avionics device, such as a radar or antenna. Therefore, the device of Everitt could easily be modified by one of ordinary skill in the art to accommodate the wires of a preferred size and type. See *In re Rose*, 220 F.2d 459, 105 USPQ 237 (CCPA 1955)⁴. See also *In re Rinehart*, 531 F.2d 1048, 189 USPQ 143

⁴ Claims directed to a lumber package "of appreciable size and weight requiring handling by a lift truck" where held unpatentable over prior art lumber packages which could be lifted by hand because limitations relating to the size of the package were not sufficient to patentably distinguish over the prior art.

(CCPA 1976)⁵ and *In Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984)⁶.

In all, it would have been obvious to one of ordinary skill in the art to modify the teachings of Everitt with the teachings of Akari, Igura *et al.*, Matlock *et al.*, and Kops in order to obtain a seal testing method that tests a bulkhead through-connection comprising a wire, an guide tube, and its associated sealing means, or to test a sealed wire guide, using a either a vacuum or a positive pressure.

Allowable Subject Matter

8. Claims 4 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, and subject to overcoming the any rejections under 35 USC 112 noted above.

9. The following is a statement of reasons for the indication of allowable subject matter.

The prior art does not provide for or otherwise suggest testing the sealing condition of a wire guide inserted through an aircraft's fuselage where the a cable guide is used as the conduit to pull a vacuum from a cavity located on the opposite side of the fuselage.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David A. Rogers whose telephone number is (703) 305-4451. The examiner can normally be reached on Monday - Friday (0730 - 1600).

⁵ Mere scaling up of a prior art process capable of being scaled up, if such were the case, would not establish patentability in a claim to an old process so scaled.

⁶ The Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on (703) 305-4705. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

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December 8, 2003



HEZRON WILLIAMS
SUPERVISORY PATENT EXAMINER
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